How to Install and Configure

a Model 1100 STU-III Encryption Device

Required Equipment & Materials

To install and configure a Model 1100 STU-III encryption device on a Windows NT 4.0 platform you will need the following equipment and materials.

- ❑ A Lucent, AT&T, or General Dynamics Model 1100 STU-III encryption device
- ❑ A power source for the STU-III device
- ❑ A modem cable to connect the STU-III device to the computer
- ❑ The most current device driver for the STU-III device. The driver can be obtain from the SPECTRUM XXI Help Desk.
- ❑ A Windows NT 4.0 Workstation CD with the most recent Service Pack. (These CDs may or may not be required)

List of Required Procedures

To install and configure a Model 1100 STU-III encryption device on a Windows NT 4.0 platform, you will need to perform the following procedures.

- ❑ Physically connect the STU-III device
- ❑ Configure the computer's STU-III port
- ❑ Install the STU-III's device driver
- ❑ Configure the STU-III on the computer
- ❑ Install and Configure the Remote Access Service (RAS)
- ❑ Configure the Model 1100 STU-III device
- ❑ Load the ACL into the STU-III device
- ❑ Dialup Networking and making a connection to the SPECTRUM XXI RAS Server.

Physically Connect the STU-III Device

To connect the device to the computer, the computer must be turned off. While your computer is powering down, connect the STU-III Device to a power source, consult your user manual for the device to learn how to connect the device to a power source. After the computer has completely powered down, take the modem cable and connect the 9 pin male side of the cable to the 9 pin female serial connection on the back of your computer. Then take the 25 pin female end of the modem cable and connect it to the 25 pin male connection on the back of the STU-III device. Now you are ready to connect the phone line to the modem. Take the phone line coming from the wall and insert it into the appropriate port on the back of the device. Also if you desire, you can plug in a telephone in the remaining phone line port on the back of the device. You are now finished physically connecting the device to your computer.

Configure the Computer's STU-II Port

1. Click **Start** and select **Settings**, then open the **Control Panel**.
2. From the **Control Panel**, double-click on the **Ports** icon.
3. On the **Ports** screen, highlight **COM1:** and click **Settings**.
4. Verify or change the port settings to the settings listed below:

   Baud Rate: 9600
   Data Bits: 8
   Parity: None
   Stop Bits: 1
   Flow Control: Hardware
5. Click **OK** and then **Close** on the **Ports** screen.

Install the STU-III's Device Driver

1. From the **Control Panel**, double-click on the **Modem** icon.
2. On the **Modem** screen, click **Add**.
3. On the **Add** screen, check the box next to **Don't detect my modem; I will select it from a list**, then click **Next**.
4. Insert the General Dynamics Secure Modem 1100/SDD1910 Device driver disk into Drive A: and click **Have Disk** and then click **OK**.
5. Highlight **GDSCS Secure Modem 1100_1910** and click **Next**.

6. Highlight **COM1** and click **Next**.
7. Click **Finish**.
8. Restart the computer

Configure the STU-III on the computer

1. After the computer has restarted, open the **Control Panel** and double-click the Modem icon again.
2. On the **Modem Properties** screen, click **Dialing Properties** and set the properties required for **Calling-Out** and for your **AOI**. Then click **OK**.
3. On the **Modem Properties** screen, click **Properties** to open the **Properties** screen for the modem you just installed or had installed.
4. On the **General** tab, set the Maximum speed to 9600.
5. Click the **Connection** tab and then click **Advanced**.
6. Confirm that the box next to **Use Flow Control** is checked; if not, check the box and select **Hardware (RTC/CTS)** for that field
7. Then click **OK** twice and then click **Close** to finish the process.

The computer must be restarted so the new hardware configuration will take affect.

Install and Configure the Remote Access Service (RAS)

1. Chick **START** and Select **SETTINGS** then choose **CONTROL PANEL**
2. From the **CONTROL PANEL**, Double click on the **NETWORK** icon
3. In the Network window, click on the **SERVIVES** tab and click on the **ADD** button
4. From the list that appears in the window, Highlight *REMOTE ACCESS SERVICE* and click the OK button
5. The screen is now prompting you to insert the *Windows NT Workstation* CD, insert that CD and click **CONTINUE**
6. In the "Add RAS Device" window, confirm the modem you installed is in the device field and then click **OK**
7. After which the "Remote Access Setup" window appears with the STU-III modem highlighted. In this window click on the **CONFIGURE** button.
8. In the "Configure Port Usage" window, Select **DIAL OUT ONLY** and click **OK**
9. Now back in the "Remote Access Setup" window, click on **NETWORK**
10. In the "Network Configuration" window there should only be a check mark next to the TCP\IP protocol deselect any other check marks with the mouse.
11. Then click on OK and then click on **CONTINU**E
12. Next close the Network Properties window and restart the computer

Configure the Model 1100 STU-III Device

To configure the modem, first ensure that the Remote Control option is "OFF" (Press the **Menu** button and then press **Select** twice). The modem screen should read "On-hook" on the first line and "Push READY" on the second line. Now the modem is ready to be configured.

The following parameters must be set on the STU III modems. Refer to the User's Manual to set the parameters for the 1100 modem.

- Secure Data set to =>SD: 9.6 F, Async, 8
- Change Config, Security Config, SAC Options, AutoAcess Ctrl => ON
- Change Config, Security Config, SAC Options, Far-end-ID => OFF
- Change Config, Security Config, SAC Options, Min Sec Level => Secret
- Change Config, Security Config, SAC Options, Max Sec Level => TS
- Change Config, Security Config, Remote Auth => OFF
- Change Config, Bit Rate Limit => 9.6 = MAX Rate
- Change Config, Network Config, Modem Output, Output => -6dBM
- Change Config, Modem Config, Trellis coding => ENABLE

The rest of the parameters previously set at the factory should not be changed.

After setting the above parameters, make sure Remote Control is turned **ON** to enable the modem to communicate with other modems. The configuration of the Model 1100 STU-III modem is now complete.

Note*:* Remote Exchanging Clients of SPECTRUM XXI must be running Windows NT 4.0 and the Model 1100 STU-III Modem must be configured as described above. Failure to do so will inhibit the modem from communicating with the RAS server and, ultimately, with the Regional Server.

Load the ACL (Access Control List) into the STU-III Device

A ".ial" file is used to load the ACL into the STU-III Modem. This file is used by the LOADACL executable on the floppy disk that was distributed with the modem. A sample file called Sample.ial is also on this disk; use this file to create a new file called Spec.ial, which you can use to load the ACL on your STU-III.

❖ Creating a ".ial" File for Loading the Modem's ACL:

To create the Spec.ial fil:

1. Insert the ACL Software floppy disk into your floppy drive.
2. Open the **Command** screen.
3. At the prompt, type **A:** and press **Enter**
4. After the A: prompt, type **edit Sample.ial** and press **Enter**. The **Edit** screen will open with the Sample.ial file. On this screen, modify the Sample.ial file to create the new file called Spec.ial

5. The first line to modify is the Header line. This line begins with an upper case N and has a six-digit date following the N. Modify the date to reflect the date you are loading the ACL into the modem.
6. Under the Keyset ID section, remove all lines that begin with an upper case K.
7. Under the DAO codes section, remove all lines that begin with an upper case D.
8. Then also under the DAO codes section, type in the following lines.

   D 502615 # PACOM Regional RAS Server
   D 100896 # CONUS Regional RAS Server

   After typing in the last line, press **Enter** twice.

9. Type **# Created by** [your name] and press **Enter**.
10. Modify the line **"# This is a sample input access list file"** to read:

    # This is the input access list file for connecting to the
    # Regional SPECTRUM XXI RAS Server

11. Modify the line **"# End of Sample.ial file"** to read:

    # End of Spec.ial file

12. Save the file as **Spec.ial** and exit the **Editor** screen.

❖ Loading the Spec.ial input file into the STU-III modem:

The modem must first be set up to accept the input file. Then from the **Command** prompt, run the Loadacl executable on the floppy disk. Follow the instructions below to load the input file.

Note: When you load the Spec.ial input file, all previously entered Keysets and DAO codes will be overwritten and will not exist in the Access Control List of the modem, after the new ACL is loaded.

➢ Setting up the Modem to Accept the Spec.ial input file

1. On the modem, turn off the Remote Control.
2. Press the **Menu** button on the modem and press the **Next** button until you reach **Change Config,** then press the **Select** button.
3. Security Config now appears in the bottom portion of the modem display screen Press **Select** and press **Next** until SACS Options appears in the bottom portion of the modem display screen Then press **Select**.
4. Press **Next** until Access List appears in the bottom portion of the modem display screen Then press **Select**.
5. In the bottom portion of the modem display screen, the line **"Load ACL via DTE"** should appear. If so, press the **Select** button.
6. When **WAITING FOR ACL, start DTE Transfer** appears, run the Loadacl executable from the **Command** prompt.

- Running the Loadacl Executable from the Command Prompt

1. Insert the ACL software floppy disk into your floppy drive.
2. Open the **Command** screen.
3. At the prompt, type **A:** and press **Enter**
4. Type **loadacl –p1 –f spec.ial** and press **Enter**.
5. When **"Hit <CR> to start DTE transfer:"** appears**,** press **Enter** again to begin the transfer of the Spec.ial input file.
6. After the input file has been loaded into the modem, press **Next** on the modem and then press **Select** to save the new ACL on the modem.
7. On the modem, turn on Remote Control. The modem can now connect to the Regional RAS Servers.
8. On your computer, type **EXIT** at the prompt to close the **Command** screen. Remove the floppy disk from your computer and store it in a secure place for future use.

Dialup Networking

Dialup networking must be install on the workstation that will be used to communicate with the SPECTRUM XXI Servers. Please install Dialup Networking on your PC if it is not installed. Open up My Computer and double-click on the DIALUP NETWORKING icon.

If Dialup Networking is not installed, a window will appear prompting you to install it. You will need the *Windows NT Workstation* CD to install Dialup Networking. Insert the NT Workstation CD into the drive and click OK, then follow the instruction on the screen.

If Dialup Networking is installed or after you install it, a window will appear prompting you to create a new phone book entry. This window is called "New Phonebook Entry Wizard". This is where we will continue the installation process of dialup networking.

Setting up Dialup Networking

1. In the "New Phonebook Entry Wizard" window, fill in the "Name phonebook entry" field with the name you want for the entry, then click NEXT.
2. In the "Server" window, put a check mark in the Internet connection box, and then click NEXT.
3. In the "Phone Number" window fill in the telephone number you wish to connect to for data exchange.
4. Then click NEXT and FINISH
5. Now in the "Dialup Networking" window click on MORE and select "Edit entry and Modem properties" from the drop down menu.
6. From this window click on CONFIGURE and the "Configure" window appears with the Basic tab exposed.

7. In the Basic tab set the Initial Speed to 9600 and in the Hardware Features box on that tab confirm there is a check mark in the box next to “Enable Hardware flow control”. {There should not be any other boxes checked }
8. Now click on the Security tab and select “Accept any Authentication including clear text”, and then click OK.
9. Now you can Dialup the Network you want to attach to for data exchange by clicking Dial or you can click on close to end the install.

Making a Dialup Connection

1. Double-click the My Computer icon on the Desktop.
2. Double-click the Dialup Networking icon on the **My Computer** screen.
3. Select the desired connection name.
4. Click **Dial**.

The computer will automatically dial the RAS Server; thus, enabling your computer to communicate with the SPECTRUM XXI Servers.

Disconnecting Your Dialup connection.

1. In the lower right-hand portion of the screen, and on the Task Bar, is a Dialup Networking icon that looks like a telephone. Right-click on this icon with the mouse pointer.
2. On the pop-up menu, highlight **Hang Up** and click on the **Name** of your connection to disconnect your computer from the RAS Server.

Reconnecting Your Dialup connection.

1. In the lower right-hand portion of the screen, and on the Task Bar, is a Dialup Networking icon that looks like a telephone Right-click on this icon with the mouse pointer.
2. On the pop-up menu, highlight **Dial** and click on the **Name** of your connection.